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ABSTRACT

A two-part study was conducted to determine the impact of adolescent employment on the tasks associated with adolescence: transition to adulthood and the development of social and personal responsibility. The first part of the study examined a body of literature around the question. Some of the studies focused on the intrinsic value of work and examined the school-work connection. Others recommended more work experiences for students to help them become more productive members of the community. The outcomes associated with working while in high school have been the subject of a plethora of studies. Some found positive outcomes of student employment, such as increased punctuality, dependability, and motivation, whereas others suggested that work can have undesirable effects. The problem with adolescent work, these studies suggest, is that it is usually low level and does not use basic academic skills. Few students were found to be involved in cooperative education. The second part of the study was based on work in progress in a national longitudinal study of employed and unemployed high school students in rural and urban sites. Data from this study tended to support a tentative conclusion that work benefits students when it is school related and that there are positive effects from school-based work experience programs. (45 references) (KC)

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Working Teens: The Influence of School Intervention

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The phenomenon of adolescent employment has attracted increasing attention in recent years. This attention has come at a time when there are decreasing numbers of adolescents available to fill jobs traditionally the domain of the young or unskilled worker. But it also comes at a time when the evidence shows that over 80 percent of youth will hold a job during the academic year sometime during their high school career (Lewin-Epstein, 1981; Greenberger & Steinberg, 1986).

What is the impact of such non-school work on the tasks associated with adolescence, namely transition to adulthood, and the development of personal and social responsibility? The first part of this paper will examine the literature around this question. The second part will summarize a study-in-progress that was designed to examine the role of school intervention in adolescent employment.

SCHOOL AND ADOLESCENT EMPLOYMENT

The President's Science Advisory Committee-Panel on Youth (1973), reported that schools were deficient in teaching the elements of personal and social responsibility — self-management, autonomy, initiative, and the ability to participate in the well-being of society. Greenberger and Steinberg (1986) add to this definition three critical tasks associated with the development of autonomy during adolescent years: the development of self-reliance, a positive work orientation, and a clear sense of identity.

If schools are indeed seen as deficient in providing opportunities for the development of these qualities, can adolescent employment be looked on as a solution to this deficit? If yes, two questions arise: Are jobs fulfilling this role of guiding adolescents in their development? And is there sufficient continuity between work and education that provides for the bridge or transition into adulthood?

If work is to play a meaningful part in adolescent development, what then is the appropriate role of the public school in structuring

such work? One perspective, best articulated by John Dewey (1916), was that education when placed in a realistic context would be more conducive to learning. The role of the school would be to arrange an environment in which work could act as an introduction to deliberate intellectual investigations of the physical and social sciences. Education through work, he felt, combined more of the factors conducive to learning than any other method.

Contemporary research by cognitive anthropologists, sociologists and psychologists has identified discontinuities between school and non-school settings (see Behn, Carnoy, Carter, Crain, & Levin, 1983; Meyer & Wise, 1982; Mortimer & Finch, 1986; Steinberg, 1982; Stern, 1982). This research prompted Resnick (1987), in her presidential address to the American Education Research Association, to call for including more work experience in vocational education, and for incorporating certain aspects of work experience (such as teamwork) into schooling more generally, in order to accomplish the broader economic and civic purposes of American Education.

A second perspective, more ancient in its origins, focuses on the intrinsic value of work. Work experience benefits students, it is argued, by helping them: (a) become more employable by learning to learn on-the-job; (b) stay in school longer by motivating them and, in some cases, by providing income; (c) better understand the intellectual content of academic subjects by making it more meaningful and relevant; and (d) become more socially and vocationally mature by increasing awareness of social and economic interdependencies and by developing self-concepts (Leske & Persico, 1984). In more recent expression, this perspective has become part of the agenda of a number of national groups that hold that experience gained in the workplace should be integral to the education of all students (National Commission on the Reform of Secondary Education, 1973; National Commission on Secondary Vocational Education, 1986; National Panel on High School and Adolescent Education, 1976; President's Science Advisory Committee, 1973).

The "experience" gained in the workplace is often given a broad definition: paid or unpaid work, volunteer service, career education. For example, one study group has recommended that "All students should be encouraged to participate in combinations of education, work experience, training, and service, though with varying emphases and with a more determined effort on the part of the school to develop an individualized program for each student . . . " (Carnegie Council on Policy Studies in Higher Education, 1979, p. 141). Just last year, The William T. Grant Commission on Work Family and Citizenship (1988) report on school-to-work transition, The Forgotten Half: Non-College Youth in America, included a similar recommendation:

We recommended that more communities experiment with multiple elements to construct an improved school-to-work system. Students should learn in schools and in the workplace and in other community settings. We are convinced that a combination of elements will work best to reduce further the dropout rate and, more important, to produce high school graduates who are more mature, more responsible, and more motivated to build better lives for themselves, their families and their communities. (p. 41)

Two of the six major elements suggested by the W. T. Grant Commission (1988) for consideration by schools and communities were monitored work experience and community and neighborhood service. Monitored work experience included cooperative education, internships, apprenticeships, pre-employment training, and youth operated enterprises. Neighborhood services included volunteer work and youth guided services.

EFFECTS OF WORKING ON ADOLESCENTS

The outcomes associated with working while in high school have been the subject of a plethora of studies. Economists have emphasized the importance of learning that takes place in the process of

production itself. There has been considerable research demonstrating that individuals acquire much of their human capital on the job (Mincer, 1962, 1974).

But does this hold true for adolescents? The evidence is at best mixed. Working by adolescents was found to be associated with punctuality, dependability, a sense of personal responsibility, and a high motivation to perform work well. It also increased females' (but not males') self-reliance and intrinsic occupational values (Greenberger & Steinberg, 1986). Stern and Nakata (in press) found relationships between qualitative aspects of jobs held during high school and labor market success during the subsequent three years. Apparently, the quality of the work experience and the extent of participation in related coursework affect the value of work experience significantly.

Yet there is a mounting body of evidence that suggests adolescent employment can have effects that are not desirable. Millions of students hold jobs but few are school supervised. The great majority are employed in retail and service jobs, working as cashiers, sales clerks, food service workers and cleaning personnel. Many others work in clerical positions and in various types of manual labor. Studies cited by Steinberg (1982) in analyses of student jobs show that there are low rates of initiative taken by student workers and little formal instruction by work supervisors or co-workers. Students, he suggests, are rarely ever required to read, write, or use arithmetic skills on the job. Most of the time on-the-job is devoted to low-level tasks such as cleaning and carrying objects. The problem, he concludes, with the type of work performed by adolescents is that it: 1) does not demand a great deal cognitively; 2) does not strengthen the work ethic; and 3) does not lead to future employment. Youngsters, Steinberg concludes, work in unskilled positions with fairly routinized tasks and little formal instruction. Behn, et al. (1983) and Timpane, Abramowitz, Bobrow, and Pascal (1976) see no advantage in providing such jobs for students. Steinberg (1982) further argues that, "the substitution of work experience for schooling decreases the likelihood that they (youth) will succeed in the labor force." (p. 202) In a later

publication, he concluded that the poor quality of many jobs threatens to make young workers "economically rich, but psychologically poor" (Greenberger & Steinberg, 1986). There is not total agreement on this point, however. Some authors (President's Science Advisory Committee, 1973; Rist, 1982) see benefits from work even in routine, menial jobs.

These studies have explored the experiences of youth who work while in school. However, they have failed to investigate the influence of school intervention in this process. Schools have invented a rich array of strategies to include time spent in a work place setting as part of the instructional program. The traditional vehicle, vocational education, has been the subject of numerous studies. While the diversity within vocational education makes homogeneous outcomes nearly impossible to assess, a number of recent studies do illuminate some outcomes of interest. Several studies have shown that programs which emphasize work experience for youth are likely to be more successful in preparing persons for subsequent labor market performance than those that do not.

Stern (1984) compared the experiences of high school students employed in out-of-school jobs with those employed in certain school-based (restaurant) jobs. He found that the student-run (school-based) restaurants gave young people "more opportunity to work in teams, to learn skills they think will be valuable in future jobs, and to experience work that is more intrinsically motivating." (p. 422) Using data from the High School and Beyond National Longitudinal Study, Stone (1987) found positive relationships between participation in certain aspects of vocational marketing education and academic achievement and the development of work attitudes.

Where the type and amount of vocational education have been controlled in the study, students defined as "concentrators" — students who took an average of six or more vocational credits over a three year period — were more likely than incidental or nonparticipants to be in the workforce after graduation and to be

in higher paying, training related jobs (Bottoms & Copa, 1983). Secondary vocational education was found to have a positive effect on the future earnings and success of participants when they were compared with a similar group of non-participants (Ghazalah, 1987; Wen Ling Li, 1981).

In an analysis of the long term effects of vocational education, Desy, Mertens, and Gardner (1984) argue that their findings refute the allegations that graduates of vocational programs work in low-prestige, low-paying jobs. Vocational education had a positive economic effect for male graduates in marketing and the trades programs; for females in business/office and trades programs. Women graduates, except for those noted, generally had lower earnings than their male counterparts, mirroring the labor force at large. In general, vocational education graduates experienced less unemployment, more so for women in the marketing and business/office programs. Higher participation and completion rates were associated with vocational graduates entering apprenticeship and employer sponsored training which in turn, led to higher wages. The authors concluded that vocational graduates use the skills learned in their secondary training programs to a fairly high degree.

As may be seen from the preceding review, those who have studied the effects of vocational education have focused primarily on economic consequences and have given little attention to educational or developmental consequences. One exception to that generalization was Schmidt (1985). Using data derived from the High School and Beyond National Longitudinal Study of the Class of 1980, she found a positive association between increased coursework in business subjects by non-academic students and higher scores on tests of cognitive ability. Working with the same data base but using the sophomore cohort (Class of 1982), Stone (1987) found that increasing amounts of coursework in marketing education had a positive, but non-significant effect on academic achievement in 12th grade, after controlling for academic achievement in 10th grade, the grade prior to when students enroll in vocational marketing education. Steinberg (1982) reported on the

results of experience based, career education (EBCE) programs and based upon his review of the literature concluded that EBCE programs have only partially delivered on their promises. That is, they do not enhance the acquisition of basic skills; there is some evidence of school retention power, and short term positive effect on work attitudes and knowledge about work but these probably wash out soon after program completion. There is no evidence, he concludes, that the same results could not have been obtained in a regular classroom setting.

While there has been some theoretical analysis of the conditions under which on-the-job learning is likely to take place (Glick & Feuer, 1984; Stern, 1982), and some empirical study of the prevalence of formal and non-formal training programs in workplaces (Benson & Lohnes, 1959), very little is known about exactly how learning takes place in the context of work, what institutional or organizational factors facilitate such learning, or how individuals develop the capacity to take advantage of learning opportunities in the workplace. We therefore know little about how best to use work experience to promote learning. What we do know is that there is a rich variety of school based work experience programs including traditional cooperative education, school run enterprises, unrelated work experience, and curriculum built around shops and labs.

ENROLLMENT IN SCHOOL-BASED WORK EXPERIENCE PROGRAMS

As reported earlier, the proportion of students who hold paid jobs while they attend school has grown substantially over the past several decades. The nature of this experience varies enormously. Some school supervised work experience is related to students' programs of study, but most is unrelated. Some of this supervised experience is gained within the school while other experience is gained outside the school. Still other experience is gained outside the school environment and is unsupervised. The great majority of students are employed in non-school supervised jobs. It is

interesting to note that the work participation rate of students enrolled in vocational programs has been found to be only slightly higher than for students enrolled in other non-vocational programs. For example, Lewin-Epstein (1981) reported that 69 percent of the seniors and 44 percent of the sophomores enrolled in vocational programs were employed. The proportion of working seniors and sophomores enrolled in college preparatory programs and general programs was 61 and 41 percent and 62 and 43 percent respectively. Lewis, Gardner, and Seitz (1983), based on their analysis of national longitudinal survey data, reported similar trends but at generally higher levels. That is, 72 percent of the students enrolled in vocational programs were employed, compared to 68 percent for those in college preparatory programs and 65 percent of those in general programs. A review of the number of vocational students enrolled in a cooperative vocational education program, a form of school-supervised work-experience, reveals that only 9.9 percent of the respondents indicated that they had participated in a "cooperative vocational education program" during their junior or senior years (National Opinion Research Corporation, 1986). A slightly higher proportion reported that they had participated in a high school "vocational educational work-study program." Because of the nature of the programs, it is possible that students might have participated in both programs during high school. Lewis, et al. (1983), analyzing part of the National Longitudinal Study of Youth sample found that 90 percent of all paid jobs held during the school year by male high school students, and 84 percent of those held by females, were of the naturally occurring kind; that is, they were not part of a cooperative vocational education program. The Grant Foundation (1988) report estimates the number of students involved in a school-supervised work experience to be even lower.

> Although exact statistics are impossible to find (even, it appears, for the number of students enrolled in vocational education!), no more than 10 percent of vocational students are reported as being involved in cooperative education. If vocational students constitute one-quarter of all high school students as is claimed, then the proportion of

> all students in cooperative education arrangements is about 2.5 percent. (p. 42)

Charner and Fraser (1984), reporting on their national study of fast food employment, note:

> The study findings show that for the vast majority of fast food employees, there is no link between their job and their schooling. Although about one-fifth report that they make special scheduling arrangements with their school in order to work at the fast food restaurant, very few receive academic credit for their work, and even fewer report that their supervisor provides a report to their school on how well they do at work. (p. 111)

Even as more students are working, participation in school supervised work experience programs appears to be declining. Olivier (1986) reports, for example, that enrollment in all types of work experience education reportedly dropped from 58,357 in 1981-82 to 32,065 in 1983-84, and has stayed at about that level since then.

A national survey of high schools in 1977 found that 64.5 percent of the schools gave academic credit for off-campus work experience (Abramowitz & Tenenbaum, 1978). No enrollment data were found that detailed the proportion of students enrolled in other types of school-based work experience programs or the amount of school credit they received for these experiences (school-based enterprises, student-owned enterprises, volunteer programs, internships, etc.).

EFFECTS OF COOPERATIVE VOCATIONAL EDUCATION WORK EXPERIENCE

One of the more often used forms of school supervised work experience is cooperative vocational education (CVE). However, as noted earlier, comparatively few students are enrolled in these programs.

In a CVE program, the instructor in the course acts as a coordinator of the work experience, arranging and supervising placements in jobs where students can practice and extend what they are learning in school. The teacher-coordinator collaborates with the student's supervisor at the work site in developing a training plan for the student, evaluating the student's performance on the job, and relating classroom study to activities on the job. Students receive credit for their work experience.

Most of the research on the effects of CVE has been directed at the secondary level. Herrnstadt, Horowitz, and Sum (1979) interviewed male high school seniors from four kinds of programs: CVE, regular vocational education, work-study, and general academic. The authors summarized their findings as mixed:

> The CVE students typically did not experience significantly higher rates of labor force participation, obtain more weeks of employment, earn higher hourly wages, or encounter lower rates of unemployment than their counterparts in the regular vocational and general academic programs during either the high schools or the 18-month post-high school, follow-up period. On the other hand, the CVE students were significantly more likely to value the jobs they held in high school, to receive on-the-job training from their employers during the high school years, to claim that their high school programs favorably affected their decision to remain in school, to attend classes during the senior year, to obtain a full-time job immediately following graduation, to obtain a job related to their high school program, and to be more satisfied with their final jobs. (p. 357)

Walsh and Breglio (1976), after comparing students in 30 urban CVE programs with non-participating students, also reported mixed results. Non-participating students were asked a set of questions about jobs they had, which parallelled questions asked of CVE students about their CVE jobs. The proportion who said that their satisfaction with school had improved after taking their

jobs was larger among CVE than non-CVE students. CVE students also were more likely to say that their jobs fit with their career interests, and that they would recommend this job (or CVE program) to a friend. In a follow-up component to their study, Walsh and Breglio reported that students who had participated in some form of school-supervised work experience were less likely to be employed and more likely to be looking for work. At the secondary level, average weekly earnings were higher for participating students in all occupations except blue collar and service. Expressed satisfaction with pay, working conditions, and challenge on the current job were no greater for participants than for non-participants.

Three ongoing longitudinal surveys can be used to compare labor market outcomes for individuals who did and did not participate in CVE or other school-supervised work experience during high school. Lewis, et al. (1983) looked at early (through 1980) follow-up data from the National Longitudinal Survey of Youth Labor Market Experience (NLSY). They identified respondents who had participated in a CVE, work-study, or in-school CETA program while in high school. The proportion who had held some kind of school-related job was larger among black and Hispanic respondents than among whites. The proportion was also larger among low socio-economic status respondents, and among those who had reported themselves to be in a vocational program during high school. Controlling for these and other characteristics, having participated in a school-supervised work experience program was not found to be associated with higher earning or lower unemployment in the first few years after graduating from high school (dropouts were excluded from this analysis, as were graduates who went on to enroll in post-secondary school). Furthermore, having been in a school-supervised job was found to correlate negatively with high school grades and class standings for females.

The other two national longitudinal surveys have been analyzed by Bishop, Blakemore, and Leow (1985). These are the National Longitudinal Study of the High School Class of 1972 (NLS72) and

the High School and Beyond Survey (HSB). They used October 1973 data for the 1972 seniors in 1980. They found that participation in CVE or work-study was positively related with post-school wages and employment (fraction of time employed) among the 1972 seniors. However, among the 1980 seniors the opposite was true. The authors concluded that the quality of school-based work experience programs had deteriorated during those eight years.

In a comprehensive review of research on CVE, Leske and Persico (1984) synthesized results pertaining to five different kinds of outcomes. Economic outcomes, including earnings and employments, have not been consistently found to be better for individuals who participated in CVE. Educational outcomes most often have been found to be worse, with CVE students planning less post-secondary schooling than other high school students in regular vocational education, although CVE students tend more often to find jobs related to their training. With regard to "social outcomes," Leske and Persico found there was no consistent evidence that civic benefits such as reduced delinquency or higher voting rates are associated with participation in CVE. However, employers do give consistently higher rating to CVE students than to other student employees. Students in CVE programs are usually found to express greater satisfaction with school, but other "personal outcomes," such as occupational knowledge or "affective competence," have not been found to be consistently associated with CVE participation. Finally, CVE programs have not been consistently found to contribute to "equity outcomes" (e.g., enrolling women in non-traditional occupations).

Many people like the idea of CVE because it seems reasonable to expect that students whose paid jobs are directly linked to their classroom work should find school more interesting, should learn more, become more productive, and should eventually get better jobs. The research does find that CVE students are relatively satisfied with school, but there is no consistent evidence that they learn more, become more productive, or find better jobs. Why not?

There are several reasons why CVE might in fact have positive effects which research to date has failed to detect. First, in some studies CVE students are lumped together with students from other programs, such as work-study, where the link between classroom instruction and experience on the job is less strong. Furthermore, not all CVE programs are alike.

A second problem with the research to date has been its short time perspective. Follow-up studies of CVE students have rarely gone as long as two years. It is altogether possible that the major benefits of CVE do not appear until considerably later.

A third problem has been one of definition. Who is a "vocational" student and who is not is often difficult to determine. Students who are considered college bound are rarely included in studies of vocational students even though they may complete a vocational sequence.

Another fundamental problem with the research has been the lack of sufficient statistical control over other student-related variables that might affect economic and educational outcomes. CVE students are not randomly selected from the student population. They select themselves to some extent, and programs coordinators may also be selective if the number of students applying for the program is greater than the number of spaces. To control for selection effects, it is necessary to measure the traits and attitudes that determine which students enroll in CVE.

Finally, and most important, the statistical research on CVE has generally ignored variation in the quality of CVE jobs. The implicit assumption has been that differences among CVE jobs are negligible compared to the difference between CVE and non-CVE jobs. This seems unlikely. Even in CVE programs following the same procedures with regard to training plans, coordination visits, and so on, some placements provide more complexity, autonomy, and other characteristics conducive to students' development. Presumably there is even greater variation among placements in other "school-supervised" jobs more generally, since

these include, in addition to CVE, other programs with different procedures and priorities. Determining whether CVE or other school-supervised jobs provide more of the features that contribute to students' long-run development than students can find in naturally occurring jobs is important for measuring more accurately the economic and educational benefits of these school-based programs.

WHAT WE KNOW AND WHAT WE DON'T KNOW

There have been numerous proposals over the past several years that some type of work or community-based experience be included in the educational programs of all students. These proposals result from concerns about the quality of secondary education such as that expressed by the President's Science Advisory Committee (1973) that schools were deficient in teaching the elements of personal and social responsibility — self-management, autonomy, initiative, and the ability to participate in the well-being of society.

Yet we know that most adolescents work during high school, many working in excess of 20 hours a week (Greenberger & Steinberg, 1986; National Opinion Research Corporation, 1986). We also know that most of this work is unrelated to school and, thus, unsupervised by school personnel.

Proponents of school supervised work experience for all secondary students argue that this type of experience will help students (a) become more employable by learning to learn on-the-job; (b) to stay in school longer by motivating them and, in some cases, by providing income; (c) better understand the intellectual content of academic subjects by making it more meaningful and relevant; and (d) become more socially and vocationally mature by increasing awareness of social and economic interdependencies and by developing self-concepts. Many people like the idea of coordinating work and school because it seems reasonable to expect that

students whose paid jobs are directly linked to their classroom work should find school more interesting, should learn more, become more productive, have better work attitudes, and should eventually get better jobs.

Opponents for requiring such an experience argue that there is a mounting body of evidence that suggests adolescent employment can have effects that are not desirable: (a) there are low rates on initiative taking and little formal instruction by work supervisors or co-workers; (b) students are rarely required to read, write, or use arithmetic skills on the job; (c) the work performed by adolescents does not demand a great deal cognitively, does not strengthen the work ethic, and does not lead to future employment; (d) negatively affects grades, attendance, participation in school activities, and peer and family relationships.

The debate has largely centered on economic outcomes and often used poor data. In the most part, there has been no school involvement in the work of the students that has been researched. The limited research on CVE programs which are designed to provide school intervention throughout the student's work experience have been somewhat limited. While the research does find that CVE students are relatively satisfied with school, there is no consistent evidence that they learn more, become more productive, or find better jobs.

Failure to detect any differences may be a factor of the research design rather than the variables being studied. For example, lumping together of students from other programs (i.e., work study) where the link between classroom instruction and experience on the job is less strong, a short time perspective (only one or two years), lack of sufficient statistical control over other student-related variables, and lack of attention to the variation in the quality of CVE jobs, may tend to hide any differences.

RESEARCH IN PROGRESS

Where, then, does that leave us? Despite the recognized importance of learning through work experience, very little is known about exactly how learning takes place in the context of work, what institutional or organizational factors facilitate such learning, or how individuals develop the capacity to take advantage of learning opportunities in the workplace. We, therefore, know little about how best to use work experience to promote learning. However, there is a longitudinal study underway to compare students in various school-based work experience programs with a group of similar students who work in non-school supervised jobs. This study, sponsored by the National Center for Research in Vocational Education at the University of California-Berkeley (see Hopkins, Stern, Stone, & McMillion, 1989), was designed to answer a series of questions about work experience programs centering on two major issues:

1. What effect does quality and quantity of work experience have on increasing desirable educational, economic, social, and psychological student outcomes?

2. How can schools arrange an environment to maximize the desirable effects of student work experience?

More specifically, the questions of concern include the following. Does the intervention of an educational agency overcome the deficiencies in the nature of and quality of typical youth jobs? Or, as a result of school intervention, do students obtain "better" jobs or jobs with more variety, learning opportunities, and challenge? To what extent does school supervision ameliorate the problems associated with adolescent employment? And finally, are there differences in the "value added" aspects of employment between those students who work in naturally occurring jobs and those students who work as part of a school-supervised program?

A five-year longitudinal study using a model of academic-social-career development was designed and initiated in the fall of 1988.

It is expected to conclude in the fall of 1993 (Stone, Stern, Hopkins, & McMillion, 1989). Drawing from the work of Greenberger and Steinberg (1986), Kohn (1969), Mortimer and Finch (1986), Wollack, Gooddale, Wijting, and Smith (1971) , and others, a number of constructs that defined desirable outcomes were identified. The conceptual model that emerged included social and career maturity, academic attainment, autonomy in the work setting, cognitive development, costs and benefits of working, and job transition, as dependent constructs. The nature of the school intervention, nature of the work environment, work autonomy/complexity, intensity of the work experience, and relatedness of school and work were identified as independent constructs along with student background characteristics. Several, but not all, of these constructs were addressed in the analysis of the first wave of data collection.

Data for this study were collected as part of the first wave of a national longitudinal study. Students were invited to participate in the study in two sites: a semi-rural county in an eastern state and an industrial city in the upper mid-west. The sample design at both sites allowed for the inclusion of students who were involved in school-based work experience programs and students who were employed in jobs they had obtained themselves that were not school supervised. In the rural site, students were randomly selected from grades 10-12 to be invited to participate in the study. Two magnet schools were used in the urban site. At one school, all 11th and 12th graders were invited to participate. At the second school, all 9th and some 12th graders were invited to participate. For a more complete description of site and student selection procedures, see Stone et al. (1989).

Four instruments were used in the study. The baseline student questionnaire consisted of eight sets of items. These included the students' background characteristics and attitudes about self; questions about their in-school activities, behaviors and attitudes towards school and their previous work histories. Questions were asked about their current job(s) and participation in school-based enterprises operated as part of a course or program. Finally,

information was collected on the students' attitudes and opinions about work and their orientation towards future work.

In addition, groups of students who were enrolled in CVE method vocational education programs or in school-based enterprises participated in focus group interviews. Parallel focus groups were conducted with students who were employed but whose work was not part of a school supervised experience.

FINDINGS

The initial findings from the student baseline questionnaire are organized around the constructs identified earlier in the preceding section. The following discussion is based upon cross-tabular analysis and only significant differences in the pattern of responses between the two groups are discussed. Four principle themes are addressed in this analysis: career and social maturity, work autonomy, costs and benefits of working, and the relation of school and work.

CAREER AND SOCIAL MATURITY

Maturity was measured in a number of ways in this study. Questions related to the students' reasons for working, job satisfaction, social interactions on the job, and their attitudes toward their present job and future employment, were used to operationalize this construct.

Why do students work? Students employed as part of a school supervised work experience program (SSWE) more frequently indicated they were working for the experience of working and to learn new skills than those employed in non-school supervised work experience (NSWE). A greater frequency of NSWE students reported that they took their job because of friends working at the job site than did SWBE students.

A majority of both groups indicated they worked to earn money to buy things and to save money for reasons other than future education. In a separate question, a slight majority of both groups indicated that working to save for future education was not a reason for obtaining a job. More than 80% of both groups indicated that parents were not a factor in their decision to work.

On a related question, SSWE students more than NSWE students indicated that their job has influenced their career choice. This would indicate that SSWE students see more of a relationship between their present and future work.

Job satisfaction. Compared to NSWE students, SSWE students reported more frequently that their job gave them a chance to learn new things and that they had a chance to use their skills and abilities. They also reported that their job gave them a chance to practice what they had learned in school. Overall, they reported higher levels of satisfaction with their job than did the NSWE students.

Social interaction on the job. NSWE students reported that they dealt with people more than did the SSWE students. But SSWE students indicated that their job let them get to know people with different social backgrounds more then did the NSWE students. This may be a result of another finding that SSWE students reported that they spent more time with adults and less time with other teens than did the NSWE students. And the SSWE students reported that their jobs gave them a chance to get to know people over age 30 more frequently than did NSWE students.

Work attitudes. One of the presumed outcomes of working is the development of a set of attitudes about work and working. Greenberger and Steinberg (1986) found that adolescent employment was associated with cynicism and other negative attitudes. Thirty-six dimensions of work attitude were included in this study along with nine specific deviant work behaviors (e.g., calling in sick when you don't want to go to work, taking money from where

you work). On most of these dimensions, there were no differences found between the two groups.

However, one behavior and five attitudes were found to be different between the two groups. NSWE students reported more often than SSWE students that they had given away goods or services for free or for less money than they should have to people who visited them at work.

SSWE students felt more strongly that a worker should feel responsible to do a decent job even without supervision. NSWE students, however, felt more strongly that if people like their jobs, they should be satisfied with them and not push for a promotion; that hard work doesn't get you much of anything in this world, and that if a job turns out harder than expected, it doesn't have to be done perfectly.

NSWE students would appear to manifest more cynicism than the SSWE students. The SSWE students on the other hand, seem to be reflecting a more traditional work ethic.

Generally, SSWE students reported more frequently that their work was meaningful and important and that they did more than the minimum amount of work. SSWE students also felt that what they were learning on the job would be useful to them later in life.

WORK AUTONOMY

For the purpose of this study, work autonomy was conceptualized as the degree to which the individual has control over the work environment. Others have emphasized the objective structure of the job (Kohn and Schooler, 1982), occupational self-direction (Mortimer & Finch, 1986), and the nature of supervision, decision-making, challenge, and thinking required (Mortimer and Lorence, 1979). In this study, the nature of supervision, the extent of occupational self-direction, and the challenge presented by the job were used to measure autonomy.

Nature of supervision. The two comparison groups differed on a number of dimensions of work autonomy. While a majority of both groups indicated they had supervisors on their job, a greater percentage of SSWE students reported having a supervisor than NSWE students. The SSWE students more often reported that they felt they were treated fairly by their supervisor than did the NSWE students.

Occupational self-direction. NSWE students more frequently reported that they were involved in routine work than did SSWE students. That is, they reported more often that they did the same work the same way over and over again. SSWE students reported more often that they did a number of different things in their work.

However, SSWE students reported that they felt it was more important to do exactly as they were told if they were to be successful in their job. This suggests that while they have more complex jobs, they are more controlled in what they do by their work supervisor or by their school supervisor.

SSWE students more frequently reported that they often did more than the minimum required of them on the job. However, they also reported slightly more often that they are sometimes unclear about what they have to do on their job. These data suggest that the SSWE students show more initiative than NSWE students and the greater complexity of their work may, at times, create some ambiguity about what to do.

Challenge. SSWE students reported more often that their jobs were challenging than did NSWE students. For both groups, most students reported both physical and mental challenges, however, the SSWE students more frequently reported that the challenges were mental whereas the NSWE students reported the challenges to be physical.

COSTS AND BENEFITS OF WORKING

A series of questions were developed to assess the students' perception of the costs associated with working and the benefits they derived.

Costs of working. Critics of adolescent employment point to evidence that working affects grades, course taking, and participation in extra-curricular activities (Greenberger and Steinberg, 1986). Several questions were addressed to these specifics.

A small percentage of students in both groups felt that working had lowered their grades, while the majority of both groups indicated that there was no effect. However, SSWE students more frequently indicated that working had improved their grades.

NSWE students more than SSWE students indicated that they did not take fewer classes to have more time for work. And they indicated less often that they had reduced their extra-curricular activities to accommodate work than did SSWE students. Overall, SSWE students reported more frequently that they believed their job had influenced their course taking and other school activities.

Benefits of working. SSWE students more than NSWE students believed that their jobs made use of their skills and abilities and let them do things that they do best. The SSWE students also more strongly believed that their jobs taught them new skills that would be useful in future work. Further, SSWE students more frequently agreed than did NSWE students that their jobs taught them the importance of getting a good education.

These data suggest that SSWE students take fewer courses and participate less in extracurricular activities than do NSWE students. These costs may be partially offset by the perception of a positive effect on grades and the increased awareness of the need for a good education.

RELATION OF WORK AND SCHOOL

School relatedness is a measure of the extent to which students are able to integrate what they learn in school and what they do on the job. It also works in the reverse. Questions were developed to assess whether students' jobs are discussed in classes at school, the influence of the job on developing academic and career plans, and the perceived influence of school on their job. In addition, this study included questions on the continued development of "basic skills" (reading, writing and math). As with other constructs of interest a variety of questions were developed to determine the extent to which the two comparison groups differed.

Use of basic academic skills on the job. SSWE students read on the job more than NSWE students. Regarding specific reading activities, SSWE students compared words to see if they were different, looked up unfamiliar words, and read technical manuals more than did NSWE students. However, NSWE students reported reading safety rules and instructions on use or maintenance of equipment more than did SSWE students.

SSWE students used math on the job more than did NSWE students. But NSWE students computed discounts more.

SSWE students also indicated that they did more writing on the job than did NSWE students. Specifically, they wrote simple sentences or filled out forms or prepared business letters and reports using a given format more often than NSWE students. The NSWE students who used writing on the job would write reports more often than SSWE students.

SSWE students also reported that the job helped to improve their ability to solve problems and to think more than did the NSWE students. SSWE students reported higher use than did NSWE students of special skills learned in school on their job.

Learning on the job. The SSWE students reported more often than the NSWE students that their jobs taught them to follow

directions, to strive to do well, to set priorities, and to communicate with others. SSWE students felt that their jobs have helped them learn how to learn. However, there were no differences on dimensions related to learning how to get along with people, take responsibility for their work, manage money, or make decisions.

Job relationship to school. SSWE students were more likely than NSWE students to indicate that in class discussions, they talked about their jobs or got ideas on how to do their jobs better.

SSWE students believed more strongly that their job provided information about things they were studying in school and that they contributed more to class discussion because of what they had learned at work. For the SSWE students, working contributed more to their recognizing the subjects they really like and don't like than it did for NSWE students.

DISCUSSION

These findings are quite preliminary in nature and should be interpreted with great care. Further analysis that would include information from the teachers, the school, and the students' employer will add greatly to our ability to address the important questions of this study.

However, even considering the limited nature of this analysis, several tentative conclusions may be advanced. These data do not support the conclusions of critics of adolescent employment such as Greenberger and Steinberg (1986). The present study did not find the deep cynicism about work that they reported.

For the students in this sample, the SSWE students tended to work more for reasons that would be considered desirable (i.e., to learn new skills and for the experience of working). The conditions under which the two groups work are different. The SSWE students enjoy jobs that are more complex than do the NSWE students. And they find their jobs more of a mental challenge. If

job satisfaction is a measure of the work environment, then the SSWE students hold jobs that are better than those held by NSWE students.

Clearly there are costs associated with working. However, these data suggest that for the SSWE students, there are attendant benefits that offset the costs. Although working affects the amount of coursework and extracurricular activities for the SSWE students, it seems to have a positive effect on grades. This may be the result of greater attention paid to fewer classes and/or the greater relationship the SSWE students found between school and work. Or it may be the result of the greater use of basic academic skills on the job reported by the SSWE students. The extent to which this offset occurs and its determinants will be the subject of further investigation.

The students involved in school based work experience programs spent more time with adults at work than did the NSWE students. The NSWE students spent more time with other teens at work. While the NSWE students appear to more closely resemble the Greenberger and Steinberg (1986) sample, clearly the SSWE students do not. This dimension coupled with the more complex nature of the work performed suggests again that SSWE students may have what might be construed as "better" jobs than the NSWE students.

These data support a tentative conclusion that there is benefit of school intervention in the workplace for those students enrolled in school based work experience programs. Much more work needs to be done, however, to better understand these relationships.

More than seventy years ago, Dewey (1916) proposed that schools arrange an environment in which work could act as an introduction to deliberate intellectual investigations of the physical and social sciences. It was Dewey's contention that work could be used to combine more of the factors of learning than any other method. That is education would be more conducive to learning when placed in a realistic context. Over the intervening years,

there has been little effort to implement Dewey's proposition regarding work, except, perhaps, by vocational educators.

But for educators to realize Dewey's dream, change needs to come regarding how we structure school-supervised work experience programs. While data cited in this paper suggest more positive development of socially desirable outcomes for students in SSWE programs than for those who are not, the mechanism by which this difference came to exist is less clear.

Based on the review of past research and the findings from this study, an argument can be made for increasing the role of school in structuring adolescent work. Schools should develop programs that provide students continual opportunity to reflect on what they are learning from work and how that connects to their vocational and other coursework. This suggests that teachers in the academic areas be cognizant of students' work activities and be taught how to integrate those experiences in their class activities.

If such programs are to be initiated, maintained, or expanded, it is imperative that school personnel responsible for SSWE programs rethink the nature of how they operate their programs. Coordinators of such programs should seek placements that offer complexity of work assignments and autonomy regarding how the work gets done. School personnel, employers, and students should work cooperatively to negotiate the learning outcomes to be developed through the work experience.

More attention needs to be paid to the learning opportunities in work situations and how those opportunities can reinforce school developed skills and add new ones. Students need more opportunity to connect their work with school based learning.

The results of the study suggest that SSWE students are employed in jobs that provide greater opportunity for learning. The literature reviewed in this paper suggest three foci to vocational educators for maximizing desirable student outcomes. These three foci

are: the nature of the job, the quality of supervision, the quality of the school-work relationship.

Work where the students have the opportunity to make decisions, and make mistakes, is demonstratably more desirable than work that is characterized by routine tasks. Work situations should provide an opportunity for students to reinforce school-taught basic skills (computation, communication, and writing). Adolescent workers should be placed in jobs where there is the opportunity to work with adult role models (Greenberger & Steinberg, 1984).

Drawing from the work of Stern (1984), it is clear that the role of the workplace supervisor is critical if the work experience provides the desirable educational benefits. Supervisors of work experience students should be provided the basic tools to be a "teacher downtown." That is, each supervising employer should understand his or her role in the education of the student and be provided the skills to be a good teacher. This would mean training of employer-supervisors by school faculty.

The evidence that too much work is not a good thing is fairly strong (Steinberg, 1982). Schools should insist that adolescents be employed for a reasonable number of hours (20 hours per week) and at reasonable times of the day. SSWE students should be encouraged not to limit the amount of courses they take to facilitate working.

The phenomenon of adolescent employment is a present condition of youth today. Properly structured, it represents an opportunity to enhance the social, intellectual, and economic development of American youth.

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